

Classwork: Find the radius/interval of conv. for the following series:

1.)
$$\sum_{n=1}^{\infty} \frac{x^n}{n^2}$$

3.)
$$\sum_{n=1}^{\infty} \frac{(x+2)^n}{n}$$

2.)
$$\sum_{n=1}^{\infty} \frac{5^n \cdot x^n}{n!}$$

4.)
$$\sum_{n=1}^{\infty} \frac{n! \cdot x^n}{n^2}$$

- a.) What is the interval of convergence?
- b.) What is the result of the ratio test?
- c.) What happens at the endpoints (if applicable)?